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ABSTRACT

A 1991 study investigated the extent to which living in the United States and communicating daily in English provided students of English as a Second Language (ESL) with skills in interpreting implicature. Subjects were 30 students tested in a 1986 study of ESL implicature who were retested with a battery of four tests: structure; cloze; dictation; and a measure designed specifically to test ability to interpret implicatures in English. Analysis of changes in scores from the early to the later testing showed improvement in implicature interpretation, but the skills still differed significantly from those of native speakers. Improvement was noted particularly in items in which knowledge of American culture was important and those in which understated criticism was a basis for the implicature. (MSE)

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The Interpretation of Implicature in English by NNS: Does it Come Automatically -- Without Being Explicitly Taught?

Lawrence F. Bouton

In 1986, a comparison of the ability of NS and NNS to interpret implicature in English found that the two groups interpreted the same implicature in the same context in the same way only 75% of the time (Bouton, 1988). Since implicature is commonplace in everyday communication (Green, 1989), this failure of the two groups to derive the same message from implicatures they confronted suggested a need to include skills in the interpretation of implicatures in ESL/EFL courses. However, a survey of recent ESL texts and informal conversations with ESL teachers indicated that little attention was paid to the development of such skills at the present.

But perhaps it is not necessary to formally teach NNS how to interpret implicature in English. Perhaps just the experience of living in the United States and communicating in English on a daily basis automatically provides NNS with the knowledge and skills they need to interpret implicatures as NS do. The purpose of this study was to gain some understanding of the extent to which this does in fact happen.

INTRODUCTION

In 1986, a study was conducted to determine the extent to which the message derived from an implicature in English by NNS would be consistent with that derived by NS (Bouton, 1988). The results indicated that the two groups derived the same message from the same implicature in the same context only 75% of the time. Since implicature of one form or another is common place in everyday communication (Green, 1989), this failure of the NS and NNS to interpret these implicatures in the same way suggests a potential source of miscommunication when members of the two groups interact. From this it seems to follow that if the purpose of our ESL/EFL courses is to increase the NNS's ability to communicate effectively in English, then those courses should include work designed to help students handle implicature. However, a survey of recent texts and informal conversations with a number of ESL teachers suggests that very little attention is paid to the interpretation of implicature in most ESL courses (Bouton, 1990). And this led to another question: Would the NNS students at an American university learn to interpret implicature more appropriately even without formal instruction? Or, put differently, is the experience of living in the United States and communicating in English on a daily basis sufficient, largely in and of itself, to lead those students to interpret implicature as NS do? Seeking an answer to this question was the purpose of the study underlying this paper.

METHOD

To implement this study, it was necessary to find a group of students who had come to the University of Illinois from overseas and had lived in the United States long enough to have a chance to increase their skill in the interpretation of implicatures in American English. It was also necessary that the subjects have been tested to determine what the level of that skill was when they arrived in the country, so that we would have a benchmark against which to measure the degree to which their ability to interpret implicature had improved over time. Since we first tested international students for this ability in 1986, we decided to select the subjects for this study from the group that arrived in September of that year.

However, of the 436 who were tested at that time, only 60 were still on campus. All of these were contacted. They were told that by taking the same battery of tests that they had taken when they first arrived, they would help us determine the extent to which they had improved different facets of their English proficiency over the years. As compensation for the 2 1/2 hours that the battery of tests requires, the subjects were paid a small sum of money and promised that they would be sent their test scores so that they could see what progress they had made. Of the 60 contacted in this way, 30 agreed to take part in the study.

The test battery used was exactly the same as the one that had been used in 1986. It was assumed that after 4 1/2 years the fact that they had taken the test before would have little effect on their performance this time.

Four different types of tests were involved. Three of these, a structure test, a cloze test, and a dictation test were used to measure the overall proficiency of NNS students entering the university and to place them in ESL courses as necessary. These collectively comprise what will be referred to as the EPT. The fourth was the test specifically designed to measure the subjects ability to interpret implicatures in English. The reason for testing the subjects' overall proficiency after 4 1/2 years was that we would then be able to compare the growth in those facets of their overall proficiency measured by the EPT with that involving the interpretation of implicature. We wanted to know, in other words, whether the students' skill in interpreting implicature increased at the same rate as their overall proficiency.

The implicature test itself was a multiple choice instrument consisting of 33 items (Bouton, 1988, 1989). Each of these contained a brief description of a situation with a short dialogue in which one of the utterances involved the use of implicature, followed by four possible interpretations of that implicature, from which the subjects were asked to choose the one that most closely approximated what the implicature meant. This format was based upon two assumptions: 1) that for each of the implicatures involved, there was an interpretation that most American NS would tend to accept as its primary meaning in the context in which it occurred, and 2) that test items could be developed in which there was enough contextual information to permit a NS to interpret any implicature found in that dialogue. Prior to actually composing the multiple choice instrument in 1986, these assumptions had been tested by giving 60 NS and 79 NNS a set of dialogues containing implicatures in an open-ended format and asking them to put into their own words what they thought

those implicatures meant. When these dialogues were turned into a multiple choice test[1], the dominant NS interpretation for each item became the "expected" response, and the more common NNS responses that differed from those of the NS were used as distracters (Bouton, 1988).

RESULTS

Returning now to the study just completed, the data from each of the 30 subjects consisted of two sets of test scores, one from August, 1986, and one from February, 1991, with each of these two sets consisting of the five scores already mentioned - those for the EPT as a whole in columns (5) and (10), those for each of its three components (structure, cloze, and dictation) in columns (2) through (4) and (7) through (9), and for the implicature test in columns (6) and (11). Sample scores are given in Table (1).

Table 1: Sample Sets of Scores Like Those Assigned Each of the 30 Subjects

			1986					1991		
Subj	Struct	Cloze	Dict	EPT	IMPLC	Struct	Cloze	Dict	EPT	IMPLC
GHI	50	56	38	48	23	62	56	51	56	29

The scores in each of the two sets were subjected to both correlation and regression analyses. The results of these analyses are portrayed in Tables (2) through (5). In addition, the scores attained on the implicature test in 1986 and 1991 were compared to determine whether significant growth had occurred in their interpretation of implicature over the 4 1/2 years. At the same time, both of these implicature test results were compared with the scores of a control group consisting of 28 NS.

Both the correlation and the regression analyses showed that there was only a rather weak relationship between the various components of the EPT and the results of the implicature test. In Table (2), for example, we notice that the correlation between the 1986 scores attained on the implicature test and those on the various components of the EPT range from .03085 for the dictation test to .36832 for the cloze test; furthermore, only one of these correlations - that between the implicature test and the cloze test - has a probability coefficient of less than .05. Table (3) contains the results from regression analysis of the 1986 data and shows much the same loose relationship between the components of the EPT and the Implicature test. For instance, we see that the EPT as a whole would be an effective predictor of a subject's success in the use of implicatures only 16.91 percent of the time; nor are any of the subcomponents of the EPT more closely related here.

Moving on to the analysis of the 1991 results shown in Tables (4) and (5), we find that, for the most part, the lack of correlation between the EPT and the implicature test persists. Again there is only one component of the EPT with which the implicature test correlates at all closely, but this time that component is the structure test rather than the cloze test that is in that position. What's more, the statistical relationship between the cloze test and the implicature test has actually weakened con-

siderably since 1986. And so we can see that there is little, if any, correlation between a person's performance on the structure, cloze or dictation components of the EPT and the ability to interpret implicatures effectively. And from this fact, we can draw one definite conclusion: *we cannot measure a person's ability to interpret implicature by using a general proficiency test like the EPT.*

Table 2: Correlation Analysis: The EPT and the Implicature Test (1986)

Pearson Correlation Coefficients / Prob > R under Ho: Rho=0 / N= 30

	Struct	Cloze	Dictation	Composite	Implic
Structure	1.0000	0.4344	0.1129	0.6632	0.3159
	0.0	0.0164	0.5525	0.0001	0.0890
Cloze	0.4344	1.0000	0.2346	0.74374	0.36832
	0.0164	0.0	0.2119	0.0001	0.0452
Dictation	0.11290	0.23467	1.0000	0.71332	0.03085
	0.5525	0.2119	0.0	0.0001	0.8714
$Composite_{EPT}$	0.66326	0.74374	0.7133	1.0000	0.31343
	0.0001	0.0001	0.0001	0.0	0.0917
Implicature	0.31590	0.36832	0.03085	0.31343	1.0000
	0.0890	0.0452	0.8714	0.0917	0.0

Table 3: Regression Analysis of Variance (Dependent Variable IMPLC 86)

Source	DF	Sum of Squares	Mean Square	F Value	Prob > F
Model	3	91.98898	30.66299	1.764	0.1787
Error	26	451.87769	17.37991		
C Total	29	543.86667			
Root MSE	4.16892	R-square	0.1691		
Dep Mean	21.93333	Adj R-sq	0.7333		
C. V.	19.00724				

Parameter Estimates

Variable	DF	Estimate	Parameter Standard Error	T for HO: Parameter=0	Prob > T
INTERCEP	1	6.666539	7.70499105	0.865	0.3948
Structure	1	0.129649	0.13334918	0.972	0.3399
Cloze	1	0.192428	0.13065125	1.473	0.1528
Dictation	1	-0.028832	0.08683990	-0.332	0.7425

Table 4: Correlation Analysis: The EPT and the Implicature Test (1991)

Pearson Correlation Coefficients / Prob > R under Ho: Rho=0 / N= 30

	Struct	Cloze	Dictation	Composite	Implc
Structure	1.0000	0.4495	0.1393	0.6711	0.4616
	0.0	0.0127	0.4628	0.0001	0.0102
Cloze	0.4495	1.000	0.2653	0.7723	0.2815
	0.0127	0.0	0.1565	0.000	0.1318
Dictation	0.1393	0.2653	1.0000	0.7145	0.0162
	0.4628	0.1565	0.0	0.0001	0.9320
$Composite_{EPT}$	0.6711	0.7723	0.7145	1.0000	0.3183
	0.0001	0.0001	0.0001	0.0	0.0865
Implicature	0.4616	0.2815	0.0162	0.3183	1.0000
	0.0102	0.1318	0.9320	0.0865	0.0

Table 5: Regression Analysis of Variance (Dependent Variable IMPLC 91)

Source	DF	Sum of Squares	Mean Square	F Value	Prob > F
Model	3	80.73938	26.91313	2.513	0.0806
Error	26	278.46062	10.71002		
C Total	29	359.20000			
Root MSE	3.27262	R-square	0.2248		
Dep Mean	25.6000	Adj R-sq	0.1353		
C. V.	12.78366				

Parameter Estimates

Variable	DF	Estimate	Parameter Standard Error	T for HO: Parameter=0	Prob > T
INTERCEP	1	11.754472	6.22208191	1.889	0.0701
Structure	1	0.220892	0.10127005	2.181	0.3399
Cloze	1	0.049802	0.89089295	0.559	0.5809
Dictation	1	-0.026945	0.06709027	-0.402	0.6912

To determine whether there had been significant growth in the ability of the NNS to interpret implicature over the 4 1/2 year period since they had first come to Illinois, a T test was used to compare their 1986 implicature test scores with those of 1991 and both of those scores were compared with the scores of the NS control group. What we found was that the 1986 and the 1991 test scores attained by the NNS were different to the .0001 degree of probability, showing that the NNS sub-

jects' ability to derive the expected message from implicatures had improved. But while the NNS interpretations of the implicatures approached those of the NS more closely after the former had been in this country for 4 1/2 years, the messages derived by the two groups still showed a statistically significant difference: in 1986 the probability coefficient was .0001; in 1991, it was only .0018.

So far, we have been able to draw two conclusions from the results of our study of the ability of NNS to become more native-like in their interpretation of English language implicatures over time: first, significant improvement does occur; and second, the skills necessary to derive appropriate implicatures apparently differ considerably from those needed to perform well on structure, cloze, or dictation tests.

But we need to study this growth in ability to use implicature more closely. Neither the NS nor the NNS groups performed uniformly well as they attempted to interpret the different types of implicatures that formed the basis of this study. Among the NS, this variation appeared as a difference in the extent to which the subjects agreed as to what message a particular implicature was meant to convey. The NNS, for their part, differed from one implicature type to another in terms of how close their interpretations came to those of the NS group. Given this variation in the apparent difficulty of different types of implicature, two questions present themselves: 1) What type of implicatures proved especially difficult for the NS and the NNS and were they the same for both groups? And (2), did the types of implicatures that were more difficult for the NNS in 1986 remain so?

The first thing that we should notice as we look at different implicature items is that there are a total of 20 out of the 33 items on the test on which the 1991 performance of the NNS and the NS was essentially the same: when the scores of the NNS and the NS on these 20 items are compared statistically, there is no significant difference between the two groups (prob > 0.3056). In 1986, only 5 of these 20 items showed so little difference between the two groups; The performance by the two groups, NS and NNS, on those five questions is indicated in Table (6).

Table 6: Items on Which NS and NNS Was Essentially the Same

			1986			1991		
Test Item	NS %	Rel[2] index	NNS %	Rel Index	NS - NNS %	NNS %	Rel Index	NS - NNS %
4	100	0.00	93	0.40	7	97	0.56	3
12	100	0.00	90	0.43	10	100	0.00	0
24	100	0.00	93	0.30	7	97	0.19	3
26	100	0.00	93	0.16	7	84	0.08	3
27	86	0.21	77	0.26	9	84	0.02	2

A second subset of the 20 implicature test items are those on which the NNS did not approach the performance of the NS in 1986, but by 1991 had improved to the point that there was no longer any significant difference between the two groups. These were related to Grice's Relevance Maxim. The NS interpretation of the implicatures in these items was remarkably uniform, with an average of 96% of

them deriving the same message in each case. But while these items were quite easy for the NS to interpret, they proved somewhat difficult for the NNS in 1986, with only an average of 77% of them - or 19% fewer than the NS - interpreting the items as expected. By 1991, this figure had risen to 93% - essentially the same as that of the NS.

Table 7: Relevance Implicatures on Which NNS and NS Performance Was Similar

Test Item	NS %	Rel Index %	NNS Index	Rel %	NS - NNS %	NNS Index	Rel %	NS - NNS
3	93	0.01	67	0.54	26	84	0.29	9
8	96	0.01	80	0.20	16	88	0.23	8
15	93	0.28	77	0.37	16	94	0.04	-1
18	100	0.00	87	0.54	13	100	0.00	0
20	100	0.00	83	0.41	17	94	0.38	6
21	96	0.01	83	0.03	13	94	0.12	2
22	96	0.19	80	0.05	16	91	0.27	5
29	100	0.00	77	0.57	23	97	0.13	3
32	89	0.09	67	0.38	22	88	0.42	1
33	100	0.00	77	0.41	23	97	0.56	3

Of these 10 relevance-based implicatures, item (32) involved a sequence implicature, in which the fact that two events are described in a particular sequence leads the listener/reader to infer that they actually occurred in that same sequence. The rest of these items, however, were more generally based on the tendency of participants in a conversation to assume that whatever a person says is somehow related to what has gone before and to interpret it in that light. Two examples of these implicatures are found in (1) and (2). In (1), for example, the difference between the NS and the NNS responses depends on their understanding of a rather specific point of American culture - the attitude of most American's toward exercise and injuries resulting from it.

(1) When Abe got home, he found that his wife had to use a cane in order to walk.

Abe: What happened to your leg?
Wife: I went jogging today.

Another way the wife could have said the same thing is...

a. Today I finally got some exercise jogging.
>> b. I hurt it jogging.
c. It's nothing serious. Don't worry about it.
d. I hurt it doing something silly.

In this item, the interpretation in (a) takes the wife's response literally and does not relate it to Abe's question. This interpretation of the response violates Grice's Relevance Maxim, but anyone choosing it draws no implicature from that violation. None of the 30 subjects in this study selected that choice either in 1986 or in 1991. All of them, in other words, drew some sort of inference from the wife's remark; whether they drew the same one as 93% of the NS depended on whether they realized that Americans tend to take exercise like jogging - as well as any injury resulting from it - rather seriously and would not refer to it as "something silly." In 1986, only 55% of the NNS interpreted this item effectively, with 25% choosing (c) and 13% choosing (d). By 1991, the percentage of NNS viewing the incident in the same way as the American NS control group had risen to 84%.

In (2), the cultural orientation of the source of the implicature is perhaps not so obvious.

(2) Lars: Where's Rudy, Tom? Have you seen him lately?
Tom: There's a yellow VW parked over by Sarah's house?

What Tom is saying here is that...

a. he just noticed that Sarah has bought a new yellow VW and is telling Lars about it.
b. he has no idea where Rudy is.
>> c. he thinks Rudy may be at Sarah's house.
d. none of these. He is deliberately changing the subject to avoid having to admit that he doesn't know.

As in (1), the first choice here disregards Grice's Relevance Maxim. In this case, however, 13% of the subjects did interpret Tom's remark that way in 1986, though none did in 1991. The other three selections are all derived through Grice's maxim. For example, (b) assumes that providing an apparently irrelevant answer to a question can be interpreted as implying that the speaker does not know the answer, while (d) assumes that the same behavior is designed to avoid having to admit ignorance. The choice in (c), on the other hand, does require knowledge of one bit of American culture, i.e., that men can visit women in their homes under apparently casual conditions. When they first took the implicature test in 1986, only 77% of the 30 NNS subjects in this study interpreted this item as the NS did, but by 1991, that percentage had risen to 97%. In both (1) and (2), then, interpreting the implicature in the same way as the NS did required that the NNS understand one or more specific facts about American culture, though this was more obvious in (1) than in (2). Also, in (2), there were some NNS who seemed not to use the relevance maxim at all in arriving at their interpretation. But helping NNS learn to interpret implicatures like these would seem to involve primarily the teaching of specific facets of American culture in the classroom and, perhaps, alerting them to indirect uses of language of this sort. At the same time, given the marked increase in the NNS ten-

dency to interpret the implicatures underlying the items in Table (6) as the NS do, the particular factors involved in these items are apparently the type that will be learned without formal instruction - at least over a 4 1/2 year period.

The last 5 of the 20 items on which the 1991 NNS performance came close to that of the NS control group are what we have labeled *understated Criticism*. As a starting point in discussing these items, we should notice that they were more difficult to recognize and interpret for both the American NS and the NNS. Of the 33 items comprising the test as a whole, 7 saw the American NS choosing the expected interpretation only from 64 to 79% of the time. Of those 7, 5 involve *understated criticism* and are related to Grice's Maxim of Quantity. This type of implicature is used when we are asked what we think of something or someone that we, in fact, do not like, but do not want to criticize directly. Instead, we reply by commenting favorably on some feature of the thing or person that is not central to the requested evaluation. This type of answer does not, of course, provide the information that the question has asked for, and this forces our conversation partner to try to understand why the desired information was not supplied. A common inference drawn from such an utterance is that the speaker did not want to answer the question directly because that could not be done without somehow offending the conversation partner. Hence, an answer that fails to provide information requested in this way is more often than not interpreted as a negative evaluation. An example of this type of utterance as it appears in one of the test items is that in (3) (adapted from Richards, 1980).

(3) Two teachers are talking about a student's term paper.

Mr. Ranger: Have you read Mark's term paper on modern pirates?
Mr. Ryan: Yes, I read it last night.
Mr. Ranger: What did you think of it?
Mr. Ryan: I thought it was well typed.

How did Mr. Ryan like Mark's paper?

(a) He liked the paper; he thought it was good.
(b) He thought it was certainly well typed.
(c) He thought it was a good paper; he did like the form, though not the content.
>> (d) He didn't like it.

Of the American NS responding to this particular test item, only 79% chose the expected response. But if this item was difficult for the NS, it was even more so for the NNS in 1986, when only 53% interpreted the implicature involved as expected. After 4 1/2 years, however, that percentage had risen to 72%, just slightly below that of the American NS. And, as Table 8 demonstrates, this same sharp increase can be found in each of the other four items containing implicatures based

on *understated criticism*. In fact, in the case of items #13 and #16, the percentage of NNS choosing the expected interpretation in 1991 was higher than that of the NS control group. What's more, as Table 8 also demonstrates, the test items based on *understated criticism* were highly reliable: on each administration of the implicature test, the reliability of four of the five items was exceptionally high, ranging well above the 0.30 that is considered acceptable, and this lends credibility to this set of items as a measure of the subjects ability to interpret this type of implicature. The NNS in this study have apparently learned to interpret this type of implicature rather well.

Table 8: Understated Negative Evaluation/Criticism

Test Item	NS %	Rel Index	NNS Rel %	NS - NNS Index	NNS %	Rel %	NS - NNS Index	%
5	70	0.60	53	0.53	16	72	0.72	7
11	75	0.38	60	0.60	15	75	0.75	0
13	75	0.22	63	0.63	12	81	0.81	-6
16	64	0.43	23	0.23	41	63	0.53	1
17	71	0.52	47	0.47	24	85	0.26	-14

We have found, then, that there are 20 implicature items on which the NNS performance approached that of the NS control group after 4 1/2 years of attending an American university - but without any formal instruction designed to develop this skill in relation to their use of American English. As we noted, when a T test is used to compare the scores of NNS and NS on these 20 questions in 1986, they were different to the .0001 degree of certainty. By 1991, however, that difference had disappeared and the probability coefficient was a non-significant 0.3056. These 20 items, we have noted, were largely based rather generally on Grice's Relevance Maxim, though 5 of them were what we have termed Understated Criticism.

There was, however, a set of 8 items on which at least 16% fewer NNS than NS chose the expected response in 1991, and on 4 of these, the similarity between the interpretations derived by the two groups actually declined over the 4 1/2 years. It is this set of eight items that is responsible for the statistically significant difference between the performance of the NNS on the implicature test as a whole in 1991 and that of the NS. However, there does not seem to be any obvious rationale that would explain why these particular items proved particularly difficult. No one type of implicature occurs in that set of items more often than any other. Like many of the items that we have already discussed, each of these requires a certain knowledge of the American culture and language that is independent of what is required by the others; sometimes there is also a linguistic pattern associated with the implicature and sometimes there is not. For example, one of the utterances in this set from which an implicature was to be drawn was "just like Mama used to make." Only 66% of the NNS recognized that comment as being positive and a compliment in 1991, while 93% of the NS interpreted it that way. Thirty-one percent of the NNS thought that the remark meant that the pie was "nothing special; just everyday food." This difference in interpretation undoubtedly stems to some extent from the

fact that the phrase is almost a cliche in American English, but it also has at least some basis in the fact that in many of the cultures represented in this study (e.g., Chinese, Korean, and Japanese), one does not brag about members of one's own family or the skills they have, since to do so is to brag about oneself and such behavior is unacceptable.

Another implicature that remained difficult for NNS is that in (4).

(4) Bill and Peter have been good friends since they were children. They roomed together in college and travelled Europe together after graduation. Now friends have told Bill that they saw Peter dancing with Bill's wife while Bill was away.

Bill: Peter knows how to be a really good friend.

Which of the following best says what Bill means?

>> a. Peter is not acting the way a good friend should.
b. Peter and Bill's wife are becoming really good friends while Bill is away.
c. Peter is a good friend and so Bill can trust him.
d. Nothing should be allowed to interfere with their friendship.

Only half of the NNS put down the expected answer here in 1991, but that is up from 37% in 1986. In fact, it is interesting to note that of the entire group of 436 subjects who responded to this item in 1986, a majority of every group except the Spanish speakers took Bill's remark literally and selected (c) as the best interpretation of what he said. It's irony escaped them.

But it is not sufficient to note that Bill's remark was ironic; we must also note those cultural understandings that lead 86% NS to recognize it as such, while only 37% of the NNS were able to do so in 1986 and only 50% in 1991. And then, having identified those elements of American culture that lead Americans to understand Bill's remark one way while the NNS interpret it another, we would have to decide how important it is for NNS to become familiar with those elements of American culture and, based on that decision, whether we should teach those elements in the ESL/EFL classroom. And this same process would have to be repeated for each of the other items in this set of 8 that the subjects in this study have not learned to interpret correctly, even after 4 1/2 years of living in the United States.

CONCLUSION

Several things are clear with regard to the interpretation of implicatures in English by NNS. For one thing, even NNS who have achieved a proficiency in English that can be represented by a score in the mid-500's on the TOEFL differed from NS in their interpretation of English implicatures for some 25% of the items

used in this study. Furthermore, a comparison of the interpretations assigned to these implicatures by the American NS with those of British and Canadian NS turned up no significant differences in the messages these three groups derived, but all three groups of NS differed significantly from the NNS (Bouton, 1991). Therefore, in the interest of facilitating better communication between these NNS and the NS with whom they will be interacting, classes should help the NNS students develop the knowledge and skills that they need to interpret the implicatures appropriately. At the present, however, these skills are not dealt with systematically by the texts available.

On the other hand, we have also seen that over a period of 4 1/2 years of living in the United States, NNS do become able to interpret most (though not all) of the implicatures covered in this study as American NS do; only 7 of the original items remained problematic for them.

It is obvious that further research is necessary on at least two different fronts. First, we need to broaden our understanding of the different types of implicatures that exist and to learn which are particularly troublesome to learners of English as a second language and why. Until that information is obtained, the decision as to which implicatures to teach and which to ignore will be made on a rather arbitrary basis. Second, we need to discover how quickly the NNS develop the skills that we found they had acquired sometime before the end of their 4 1/2 years here. If NNS develop these skills quickly, then dealing with them in the ESL classroom becomes much less important; to the extent that their development is relatively slow, then anything that we can do to help the NNS to master them more quickly becomes desirable. One of the goals of pragmatics should be to provide ESL teachers with an empirically based, carefully reasoned set of guidelines as to what course, if any, should be followed in the development the NNS ability to interpret implicatures effectively.

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NOTES

[1]For the reasons for choosing a multiple choice format over that of the open ended question, see Bouton (1988, 1989).

[2]The figures in this column represent the reliability index associated with a particular question. Questions with indices ranging between .20 and .29 are marginal; those between .30 and .39 are solid; and those above .40 are especially reliable test items. Items that are easy for everyone usually have low reliability coefficients.

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